**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (currently amended): A method of preventing encoding time overrun of an audio-video encoder, comprising:

determining an encoding time overrun in the encoding of an input bitstream within which the encoding process for at least one of the frames received at the input of the encoder required more than one frame period to complete;

determining the severity of the time overrun based on the time taken by the encoder to process frames; and

encoding a current frame using at least one catch-up mode encoding method to process the current frame in equal to or less than a frame period toward reducing encoding time overrun in response to the severity of said encoding time overrun.

2. (original): The method of claim 1 wherein encoding occurs without skipping a frame of the input bitstream.

3. (currently amended): The method of claim 1 further comprising:

determining an anticipated finishing time for the encoding when determining the severity of the time overrun.

4. (original): The method of claim 3 wherein determining the severity of the overrun is based on upon the anticipated finishing time.

5. (original): The method of claim 1 wherein determining the overrun occurs before encoding a next frame.

6. (original): The method of claim 1 wherein a subsequent overrun does not occur during the catch-up processing.

7. (original): The method of claim 1 wherein a plurality of catch-up modes are available to speed-up encoding of the bitstream.

8. (currently amended): The method of claim 1 wherein the catch-up encoding mode ~~contains a plurality of rate control processes~~ comprises a simpler encoding method or generates higher data rates, toward reducing the time overrun for the encoder.

9. (currently amended): A system for encoding audio-video data comprising:

an encoder configured for encoding frames of audio and/or video;

a catch-up controller coupled to said encoder and configured to support multiple catch-up modes;

wherein said catch-up modes comprise encoding methods within said encoder for encoding incoming frames at equal to or less than a frame period; and

a time overrun detector configured for receiving timing information from said encoder and generating a signal to said catch-up controller for changing encoding modes to change the time taken by the encoder to process frames thereby controlling time overrun in said encoder

~~a catch-up controller to determine an overrun in the encoding of an input bitstream and to determine the severity of the overrun; and~~

~~an encoder to encode a current frame using at least one catch-up mode to process the overrun~~.

10. (currently amended): The system of claim 9 wherein [[the]] said encoder is configured to encode ~~encodes~~ the input bitstream without skipping a frame of the input bitstream.

11. (currently amended): The system of claim 9 wherein [[the]] said encoder is further configured for determining ~~determines~~ an anticipated finishing time for the encoding.

12. (currently amended): The system of claim 11 wherein ~~the encoder~~ said time overrun detector is configured for determining ~~determines~~ the severity of the overrun based upon the anticipated finishing time.

13. (currently amended): The system of claim 9 wherein ~~the encoder~~ said time overrun detector is configured to determine ~~determines~~ the overrun before encoding a next frame.

14. (currently amended): The system of claim 9 wherein said encoder is configured so that a subsequent overrun does not occur during the catch-up processing.

15. (currently amended): The system of claim 9 wherein said catch-up controller is configured with a plurality of catch-up modes [[are]] available to speed-up encoding of the bitstream.

16. (currently amended): The system of claim 9 wherein [[the]] each catch-up mode ~~contains a plurality of rate control processes~~ utilizes a simpler encoding method or generates higher data rates, thereby reducing the time overrun for the encoder.

17. (currently amended): The system of claim [[16]] 9 wherein ~~each of the plurality of rate control processes avoids quality loss of the bitstream~~ said catch-up modes can be selected which reach encoding completion in less time than the normal encoding mode which does not limit encoding to completion in a single frame period.

18. (currently amended): The system of claim [[9]] 17 wherein ~~the encoder uses a plurality of catch-up modes to produce short catch-up times and good catch-up quality~~ said catch-up modes comprise at least a level-1 and level-2 catch-up mode;

wherein said level-1 catch-up mode is configured to complete encoding in approximately a single frame time; and

wherein said level-2 catch-up mode is configured to complete encoding in less than a single frame time.

19. (currently amended): A system of audio-video encoding, comprising:

means for encoding a frame of a received audio-video bitstream into a compressed output stream;

means for reducing the time required for the encoder to process a frame according to at least one catch-up mode; and

means for determining time overruns during said encoding in response to timing information received from said means for encoding and activating said catch-up mode of said encoding means towards limiting or preventing said time overruns

~~means for determining an overrun;~~

~~means for determining the severity of the overrun; and~~

~~means for encoding a current frame using at least one catch-up modes to process the overrun~~.

20. (currently amended): A computer readable medium comprising instructions, which when executed on a processor, perform a method for audio-video encoding ~~timeshifting the encoding and decoding~~ of a bitstream, the system comprising:

means for encoding a frame of a received audio-video bitstream into a compressed output stream;

means for reducing the time required for the encoder to process a frame according to at least one catch-up mode; and

means for determining time overruns during said encoding in response to timing information received from said means for encoding and activating said catch-up mode of said encoding means towards limiting or preventing said time overruns

~~means for determining an overrun;~~

~~means for determining the severity of the overrun; and~~

~~means for encoding a current frame using at least one catch-up modes to process the overrun~~.